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The method I have taken to irrigate the above meadows is, by taking water out of its natural course, at the distance of at least thirteen chains above my first meadow, by a ditch, upon the average twenty feet wide, seven feet perpendicularly deep, and six feet wide at the bottom. The water thus introduced, divides itself into two feeders, one of which conveys water to my first meadow, and then runs off to water my last meadow, and the other to the other intermediate meadows. All the meadows are formed into beds, as I have stated above, which are raised so as to have a fall on each side from two to three feet, and so well formed, as to be watered in every part. The work is all done by labourers with spades, and will cost altogether about 30*l.* per acre. This expense, however, I think by no means considerable, when I take into consideration the circumstances of value above stated, and when I consider, what perhaps may not occur in those countries where irrigation is more practised, viz. that the turnip crop, as food in winter, is becoming more expensive and (what is of great consequence) more precarious; to supply which deficiency, I expect the hay of these water meadows to be such a resource as is almost inestimable.

On a New Variety of Pear; by Thomas Andrew Knight, Esq. F.R.S. &c. &c.

HAD the Pear been recently introduced into England from a climate similar to that of the South of France, in which it had been found to ripen in the months of August and September, and to become fit for the dessert in the four succeeding

months, it might have been inferred, with little apparent danger of error, that the same fruit would ripen here in October, and be fit for our tables during winter; provided its blossoms proved sufficiently hardy to set in our climate. But had many varieties of this fruit been proved by subsequent experience to be capable of acquiring maturity before the conclusion of our summer, and in the early part of the autumn, without the aid of a wall, scarcely any doubts could have been entertained of the facility of obtaining numerous varieties, which would ripen well on standard trees, to supply our tables during winter: for it would be very extraordinary if the whole of our summer, and of our long, and generally warm autumn, would not effect that, which a part of our summer alone had been proved to be capable of effecting; nevertheless, though varieties of the pear abound, which bear and ripen well in the early part of the autumn, we possess scarcely any good winter pears which do not require an East or West wall in the warmer parts of England, and a South wall in the colder parts. This can arise only from the want of varieties, and I venture most confidently to predict, that (if proper experiments be made to form such varieties) winter pears, of equal merit with those which now grow on our best walls, will be obtained in the utmost abundance from standard trees; and that such pears may be sold, with sufficient profit to the grower, on as low terms as apples are now sold during winter: for I have had several opportunities of observing that the fruit of seedling pear-trees generally bears a considerable resemblance to that of their parent trees, and the experiments I have made on other species of fruits, induce me to believe, that a good copy of almost any varieties may

be obtained; and as I have more than once succeeded in combining the hardness and vigour of the yellow Siberian crab with the richness of the golden pippin, I do not doubt of the practicability of combining the hardness and vigour of the Swan's egg pear with all the valuable qualities of the Colmar, or Bezi de Chaumontel; and I consider the climate of England as peculiarly well calculated for the necessary experiments.*

I am disposed to annex some degree of importance to the production of abundant crops of fruit, to supply our markets, at a moderate price during the winter and spring; for it has been often observed, that great manufacturing towns have generally been more healthy in seasons when fruits have abounded than in others; and the same palate which is accustomed to, and pleased with sweet fruits, is rarely found to be pleased with spirits, or strong fermented liquors: therefore, as feeble causes, which are constantly operating, ultimately produce very extensive effects on the habits of mankind, I am inclined to hope, and to believe, that markets abundantly supplied at all seasons with fruits, would have a tendency to operate favourably both on the physical and moral health of our people.

Under these considerations I have amused myself with attempts to form new varieties of winter pears; and though my experiments are yet in their infancy, and I have seen the result of one only, and that under very unfavourable circumstances, I am induced to state the progress that I have made to the Horticultural Society, in

the hope that others will join me in the same pursuit.

In the spring of the year 1797, I extracted the stamina from the blossoms of a young and vigorous tree of the autumn bergamot pear, which grew in a very rich soil, and I introduced at the proper subsequent period the pollen of the St. Germain pear, and from this experiment I obtained several fruits, with ripe seeds: I, however, succeeded in raising only two plants; one of these was feeble and dwarfish in its growth, as well as wild and thorny in its appearance, and I did not think it worth preserving. The other presented a much more favourable character, and I fancied that I could discover in it some traces of the features of its male parent. This plant afforded blossoms in the year 1803, but I had very unfortunately removed it from the seed-bed, when it was fourteen feet high, in the preceding winter, and as it had never been previously transplanted, it had retained but very few roots. Two of the blossoms, nevertheless, afforded fruit; which began to grow with rapidity as soon as the tree had emitted new roots, but this was not till late in the summer, and on the eighth of October, the fruit was blown from the tree by a violent storm. The two pears were then very nearly of the same weight and size, each being somewhat more than eight inches in circumference, and in form almost perfectly spherical. Though bruised by their fall, the pears remained sound till the beginning of December, when they became sweet and melting, though not at all highly flavoured: their flavour was, however, better than I expected, for they were blown from the tree long before they would
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* See Hort. Trans. Vol. 1, p. 30.

have ceased to grow larger, if the state of the weather would have permitted; and the autumn of 1808 was so excessively wet, that some St. Germain pears, which grew on the South wall in the same garden, were wholly without richness of flavour.

The new pear very much resembled the St. Germain, in the form of the eye and stalk; and the almost perfectly spherical shape is that which might have been anticipated from the forms of its parents. It will probably acquire a very large size under favourable circumstances; but removing from my late residence at Elton, I have been under the necessity of again transplanting the tree, and therefore I cannot expect to see its fruit in any degree of perfection till the year 1811. I have subsequently attempted to form other new varieties by introducing the pollen of the *Beurrée*, the *Crassane* and *St. Germain* pears into the prepared blossoms of the autumn *Bergamot*, the *Swans' egg*, and *Aston town* pears; but I have not yet seen the result of the experiments. The leaves and habits of some of the young plants afford, however, very favourable indications of the future produce.

In the preceding experiments I have always chosen to propagate from the seeds of such varieties as are sufficiently hardy to bear and ripen their fruit, even in unfavourable seasons and situations, without the protection of a wall; because, in many experiments I have made with the view of ascertaining the comparative influence of the male and female parents on their offspring, I have observed in fruits, with few exceptions, a strong prevalence of the constitution and habits of the female parent; and, consistently with this position, the new pear I have des-

cribed grew very freely in an unfavourable season, and in a climate in which the *St. Germain* pear, when its blossoms do not perish in the spring, will not grow at all without the protection and reflected heat of a wall. I would therefore recommend every person who is disposed to engage in the same pursuit, to employ the pollen only of such pears as the *St. Germain*, the *D'Auche*, the *Virgoleuse*, the *Bezi*, the *Chauumontel*, the *Colmar*, or *Bergamotte de Pasques*, and the seeds of the more hardy autumnal and winter kinds.

I would also recommend the trees from which the seeds are to be taken to be trained to a West wall in the warmer parts of England, and to a South wall in the colder, so that the fruit may attain a perfect, though late, maturity. Every necessary precaution must of course be taken to prevent the introduction of the pollen of any other variety, than that from which it is wished to propagate, into the prepared blossoms.

I shall take this opportunity of pointing out to the Horticultural Society the merits of a new variety of plum, (*Goe's Golden Drop*), as a fruit for the dessert during winter, with which the public are sufficiently well acquainted. Having suspended by their stalks, in a dry room, some fruit of this variety which had ripened on a West wall in October, in the year 1808, it remained perfectly sound till the middle of December, when it was thought by my guests and myself to be not at all inferior, either in richness or flavour, to the green gage or drap d'or plum. I am informed by Mr. Whitley, of Old Brompton, from whom I received it, that it bears well on standard trees.